longitudinal flux at the transducer region.

2.(Amended) A torque transducer as claimed in Claim 1 wherein said means for generating the compensating flux comprises at least one current-carrying coil about the shaft to be magnetically coupled thereto.

3. (Amended) A torque transducer as claimed in Claim 1 said means for generating the compensating flux comprises a magnetic structure having poles spaced along the shaft and at least one current-carrying coil wound on said magnetic structure.

A1 cont

4. (Amended) A torque transducer as claimed in Claim 1 in which said shaft carries a collar structure comprising two axially-spaced portions in the space between which is disposed the sensor responsive to the component of longitudinal flux.

5. (Amended) A torque transducer for measuring the torque in a rotating shaft which, in operation, has a longitudinal field extending therealong, wherein at least one sensor is placed in non-contacting fashion adjacent a portion of the shaft to sense and provide a signal dependent on a transverse component of flux arising from the longitudinal flux due to the torque in the shaft.

6. (Amended) A torque transducer as claimed in Claim 5 in which a further non-contacting sensor is mounted to sense the longitudinal flux to provide a reference signal.

7. (Amended) A torque transducer for a rotating shaft comprising flux generating means for generating a magnetic flux extending longitudinally in a portion of the shaft, said flux generating means being magnetically coupled to said shaft at axially spaced locations between which said portion is situated, at least one sensor placed in non-contacting fashion adjacent said portion to provide a signal dependent on a transverse component of flux arising from the longitudinal flux in said portion due to the torque in the shaft,

said magnetic flux generating means being operable to generate an alternating magnetic field at a selected frequency, and said at least one sensor signal being processed by frequency selective means operable at said selected frequency to provide a signal representing torque in the shaft derived from said alternating magnetic field.

8. (Amended) A torque transducer as claimed in claim 7 in which said shaft transmits in operation another longitudinal flux, not generated by said flux generating means said selected frequency enabling the signal dependent on the transverse component of flux to be separated from any signal due to said other longitudinal flux in processing by said frequency selective means.

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9. A torque transducer as claimed in Claim 8 in which said flux generating means operates in a pulsed mode.

10. (Amended) A torque transducer element as claimed in Claim 7 in which said flux generating means comprises a pair of spaced coils wound about said shaft and between which said portion is situated and means for energising said coils at the selected frequency.

11.(Amended) A torque transducer element as claimed in Claim 7 in which said flux generating means comprises a magnetic structure having a pair of spaced poles which magnetically coupled to said shaft and between which said portion is situate, at least one coil would on said magnetic structure, and means for energising said at least one coil at the selected frequency.

12. (Amended) A transducer assembly for measuring, preferably in a non-contacting fashion, torque in a rotating shaft, the assembly comprising an erase head for cleaning a zone of the shaft as it rotates, a write head downstream of the erase head in the direction of rotation to write a magnetic track of a given width onto the cleaned zone, a pair of read heads spaced in an axial direction to respond to the magnetic track, said read heads being disposed on, toward or adjacent